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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/731,612	12/09/2003	Jeffrey M. Dils	10710-623(PTG 0633 PUS2)	4771
78961 7590 07/30/2008 TTI/BRINKS HOFER GILSON & LIONE P.O.BOX 10395 CHICAGO, IL 60610			EXAMINER NGUYEN, PHONG H	
			ART UNIT 3724	PAPER NUMBER
			MAIL DATE 07/30/2008	DELIVERY MODE PAPER

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte JEFFREY M. DILS, KENNETH M. BRAZELL,
CHARLES M. WACKER, and CHARLES KEITH LONG

Appeal 2008-1561
Application 10/731,612
Technology Center 3700

Decided: July 30, 2008

Before JENNIFER D. BAHR, LINDA E. HORNER, and
BIBHU R. MOHANTY, *Administrative Patent Judges*.

HORNER, *Administrative Patent Judge*.

DECISION ON APPEAL

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STATEMENT OF THE CASE

Jeffrey M. Dils et al. (Appellants) seek our review under 35 U.S.C. § 134 of the final rejection of claims 1-9.¹ We have jurisdiction under 35 U.S.C. § 6(b) (2002).

SUMMARY OF DECISION

We AFFIRM and ENTER NEW GROUNDS OF REJECTION PURSUANT TO OUR AUTHORITY UNDER 37 C.F.R. § 41.50(b).

THE INVENTION

The Appellants' claimed invention relates to ergonomic handles for miter saws (Spec. 1:9-10). Claim 1, reproduced below, is representative of the subject matter on appeal.

1. A miter saw comprising:
 - a. a base;
 - b. an arm assembly having a fixed end pivotally attached to the base, a free distal end forming a handle spaced outwardly therefrom and a central region therebetween provided with a rotary spindle supporting a cutting disc;

¹ The Final Office Action of November 13, 2006, included a rejection of claims 22-24. These claims were subsequently canceled by the Appellants in an After-Final Amendment filed on May 8, 2007. We did not find any Advisory Action in the record indicating the Examiner's treatment of this Amendment. The Examiner's Answer, however, no longer includes the rejection of claims 22-24. As such, we treat these claims as canceled, and the Examiner should indicate that the After-Final Amendment of May 8, 2007 has been entered.

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c. wherein the handle has a transverse oriented elongate grip portion sized for a user's fingers to wrap thereabout and a palm pad portion extending outwardly from the grip portion for a distance sufficient to underlie the heel portion of the palm of the user's hand so that as the user lowers the handle towards the base to cause the cutting disc to engage a work piece, the palm pad portion transmits downward force from the user's hand to the handle thereby minimizing torque on the user's wrist.

THE REJECTIONS

The Examiner relies upon the following as evidence of unpatentability:

Pause	US 1,119,787	Dec. 1, 1914
Bidanset	US 4,912,848	Apr. 3, 1990
Brunson	US 5,802,943	Sep. 8, 1998
Svetlik	US 5,969,312	Oct. 19, 1999
Bean	US D441,771 S	May 8, 2001

The following rejections are before us for review:

1. Claims 1 and 4 are rejected under 35 U.S.C. § 102(e) as anticipated by Bean.
2. Claim 2 is rejected under 35 U.S.C. § 103(a) as unpatentable over Bean and Svetlik.
3. Claim 3 is rejected under 35 U.S.C. § 103(a) as unpatentable over Bean and Bidanset.
4. Claims 1 and 4-9 are rejected under 35 U.S.C. § 103(a) as unpatentable over Brunson, Bean, and Pause.

ISSUES

The issues before us include whether the Appellants have shown that the Examiner erred in rejecting claims 1 and 4 under 35 U.S.C. § 102(e) as anticipated by Bean, claims 2 and 3 under 35 U.S.C. § 103(a) as unpatentable over Bean in view of Svetlik and in view of Bidanset, respectively, and claims 1 and 4-9 under 35 U.S.C. § 103(a) as unpatentable over Brunson, Bean, and Pause. These issues turn, in part, on whether Bean discloses a handle having a palm pad portion extending outwardly from the grip portion for a distance sufficient to underlie the heel portion of the palm of the user's hand.

FINDINGS OF FACT

We find that the following enumerated findings are supported by at least a preponderance of the evidence. *Ethicon, Inc. v. Quigg*, 849 F.2d 1422, 1427 (Fed. Cir. 1988) (explaining the general evidentiary standard for proceedings before the Office).

1. A person's palm is the inner surface of the hand that extends from the wrist to the bases of the fingers. *The American Heritage Dictionary of the English Language* (4th ed. 2000).
2. The heel of the palm is the fleshy rounded base of the palm or that part of the palm nearest the wrist. *The American Heritage Dictionary of the English Language* (4th ed. 2000); *MedlinePlus® Medical Dictionary*, available at www.nlm.nih.gov/medlineplus/mplusdictionary.html.

3. Bean discloses a miter saw having a handle (Bean, Fig. 6).
4. Although Bean does not depict a user's hand oriented with respect to the handle, it is clear from Bean that when a user grasps the handle shown in the normal course of usage of the miter saw, at least a portion of the handle would underlie the palm of the user's hand.
5. Bean's handle includes what appears to be a trigger mechanism and an opening such that the user's fingers would wrap around the handle and pass through the opening to actuate the trigger (Bean, Fig. 6).
6. Bean's handle also includes a portion that extends rearwardly of the trigger mechanism a certain distance (Bean, Fig. 6).
7. When gripping the handle, the user's palm would rest against the portion of the handle rearward of the trigger mechanism.
8. Depending on the size of the user's hand, at least some users would have hands small enough so that the palm pad portion of the handle would underlie the heel portion of the palm of the user's hand.
9. Further, if the user grips the handle at a slight angle in order to better reach the trigger with the fingers, then the palm pad portion of the handle would underlie at least a portion of the heel portion of the palm of the user's hand.
10. Pause teaches an improvement in a handle for a handsaw which allows the handle to be adjustably secured to the blade in such

manner that it may be turned to lie in a plane disposed at any desired angle to the plane of the saw blade (Pause, p. 1, ll. 10-16).

11. Pause describes that when an angular cut is to be made in a position that is not easily accessible, then the handle can be turned with respect to the saw blade to any directed angular position (Pause, p. 1, ll. 75-86).
12. Brunson discloses a miter saw 10 having a handle 24 that is fixedly connected in angular position relative to the saw blade 18 (Brunson, col. 3, ll. 21-25 and Fig. 4).
13. Brunson further discloses that the miter saw 10 can be used to make bevel cuts in a work piece by pivoting the housing assembly 16 to change the angle of the saw blade 18 relative to a table assembly 14 (Brunson, col. 3, ll. 39-42).
14. Both the saw blade 18 and the handle 24 are part of the housing assembly 16 (Fig. 3).
15. As such, when the saw blade 18 is pivoted, the handle 24 also pivots because the two are connected in a non-rotatable fashion.
16. In such instances, the handle is presented to the user in an angled orientation, which may be awkward for operation of the handle by the user.

PRINCIPLES OF LAW

"Both anticipation under § 102 and obviousness under § 103 are two-step inquiries. The first step in both analyses is a proper construction of the claims. . . . The second step in the analyses requires a comparison of the properly construed claim to the prior art." *Medichem, S.A. v. Rolabo, S.L.*, 353 F.3d 928, 933 (Fed. Cir. 2003) (internal citations omitted). During examination of a patent application, pending claims are given their broadest reasonable construction consistent with the specification. *In re Prater*, 415 F.2d 1393, 1404-05 (CCPA 1969); *In re Am. Acad. of Sci. Tech Ctr.*, 367 F.3d 1359, 1364 (Fed. Cir. 2004). Although a patent applicant is entitled to be his or her own lexicographer of patent claim terms, in *ex parte* prosecution it must be within limits. *In re Corr*, 347 F.2d 578, 580 (CCPA 1965). The applicant must do so by placing such definitions in the Specification with sufficient clarity to provide a person of ordinary skill in the art with clear and precise notice of the meaning that is to be construed. *See also In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir. 1994) (although an inventor is free to define the specific terms used to describe the invention, this must be done with reasonable clarity, deliberateness, and precision; where an inventor chooses to give terms uncommon meanings, the inventor must set out any uncommon definition in some manner within the patent disclosure so as to give one of ordinary skill in the art notice of the change).

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior

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art reference.” *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631 (Fed. Cir. 1987).

“Section 103 forbids issuance of a patent when ‘the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.’” *KSR Int’l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1734 (2007). The question of obviousness is resolved on the basis of underlying factual determinations including (1) the scope and content of the prior art, (2) any differences between the claimed subject matter and the prior art, (3) the level of skill in the art, and (4) where in evidence, so-called secondary considerations. *Graham v. John Deere Co.*, 383 U.S. 1, 17-18 (1966). *See also KSR*, 127 S. Ct. at 1734 (“While the sequence of these questions might be reordered in any particular case, the [*Graham*] factors continue to define the inquiry that controls.”)

ANALYSIS

Claim Interpretation

The Appellants contend the Examiner erred in rejecting claims 1 and 4, because “Bean does not disclose a handle that has a palm pad portion extending outwardly from the grip portion (of the handle) for a distance sufficient to underlie the heel portion of the palm of the user’s hand, as in claim 1” (Reply Br. 2). In order to analyze whether Bean discloses this

claim element, we must determine what the Appellants meant by the term “heel portion” in light of the Specification.

A person’s palm is the inner surface of the hand that extends from the wrist to the bases of the fingers (Fact 1). The heel of the palm is the fleshy rounded base of the palm or that part of the palm nearest the wrist (Fact 2).

The Appellants’ Specification describes, “[t]he palm pad portion 44 extends outwardly toward the user in a sufficient distance to underlie the heel portion of the user’s palm as illustrated in Figure 3” (Spec. 5:15-16). An annotated version of Figure 3 is reproduced below.

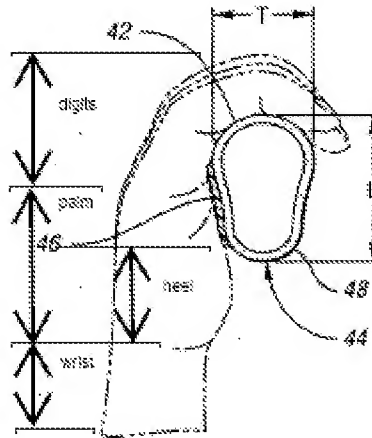


Fig. 3

Figure 3 of Appellants’ drawings depicting a side elevational view of the orientation of the user’s hand relative to the miter saw handle with annotations added to identify portions of a user’s hand

We are somewhat perplexed by the description of Figure 3 in the Specification, because although the Appellants’ Specification describes that the palm pad portion extends to underlie a heel portion of the user’s palm,

Figure 3 does not appear to depict the palm pad portion under the heel of the palm. Rather, Figure 3 shows the palm pad portion 44 extending only under the first portion of the user's palm adjacent the fingers. It does not appear from Figure 3 that the palm pad portion extends a sufficient distance to underlie what we understand as the "heel portion" of the palm.

We see a similar problem with the depiction of the orientation of the hand relative to the handle shown in Appellants' Figure 2, reproduced below.

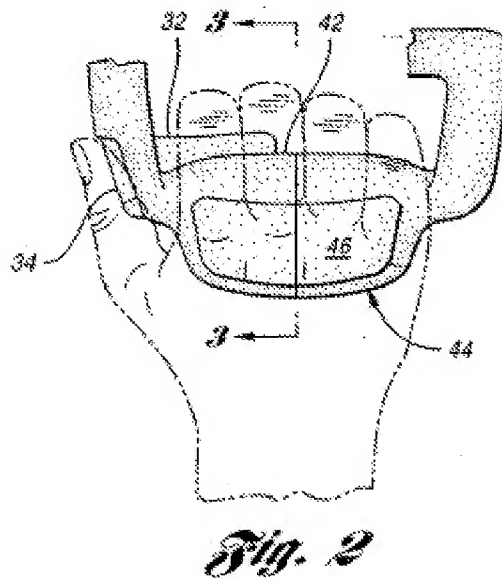


Figure 2 of Appellants' drawings depicting a partial top plan view of the orientation of the user's hand relative to the miter saw handle

It appears from Figure 2 that the palm pad portion 44 extends only slightly behind the user's knuckles and under the upper portion of the user's palm. The palm pad portion 44 does not appear to extend outwardly a sufficient distance to underlie a heel portion of the user's palm.

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Based on this description and corresponding depictions, we question whether the Appellants were using the term “heel” contrary to its ordinary and customary meaning. The Appellants’ Specification does not provide any definition of heel with sufficient clarity to provide a person of ordinary skill in the art with clear and precise notice of the meaning that is to be construed. An inconsistency exists between the description of the palm pad portion in the Specification, i.e., extending outwardly toward the user in a sufficient distance to underlie the heel portion of the user’s palm, and the depiction of the palm pad portion in the Figures, which does not depict the palm pad portion underlying the heel portion of the user’s palm. As such, the intended meaning of the claimed “heel portion” is unclear. The Appellants have thus failed to particularly point out and distinctly claim the subject matter of the claimed invention as required under 35 U.S.C. § 112, second paragraph, because one skilled in the art would not understand what is claimed when the claim is read in light of the Appellants’ Specification. *Orthokinetics, Inc. v. Safety Travel Chairs, Inc.*, 806 F.2d 1565, 1576 (Fed. Cir. 1986). Accordingly, we enter a new ground of rejection of claims 1-9 under 35 U.S.C. § 112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter Appellants regard as their invention.

Alternatively, we will assess the claim rejections using the ordinary and customary meaning of “heel,” viz, the fleshy rounded base of the palm nearest the wrist.

Rejection of claims 1 and 4 under 35 U.S.C. § 102(e) as anticipated by Bean

The Appellants argue claims 1 and 4 as a group, because they present the claims under a single heading and provide no arguments for the separate patentability of dependent claim 4 (App. Br. 6-8). As such, we treat claim 1 as representative, and claim 4 stands or falls with claim 1. 37 C.F.R. § 41.37(c)(1)(vii) (2007).

We now turn to the scope and content of Bean. Bean discloses a miter saw having a handle (Fact 3). The handle is most clearly depicted in Figure 6, reproduced below.

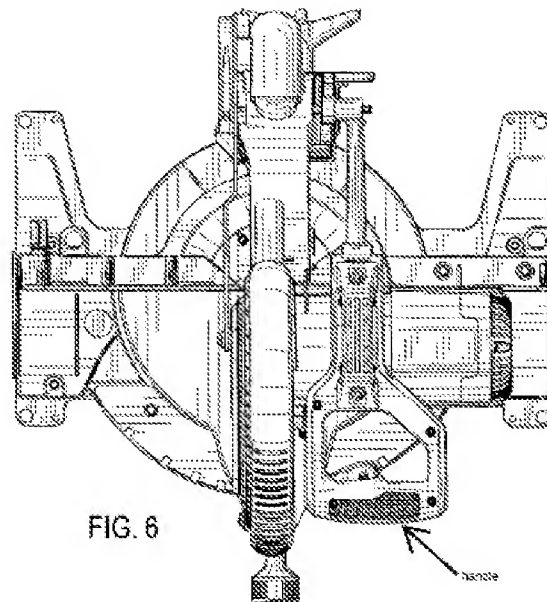


Figure 6 of Bean depicting a top plan view of a miter saw with a handle
(annotation added)

Although Bean does not depict a user's hand oriented with respect to the handle, it is clear from the depiction of the handle in Bean that when a

user grasps the handle, a portion of the handle would underlie the palm of the user's hand (Fact 4). The Appellants have chosen to define the claim, and in particular the size of the palm pad portion, relative to where the palm pad portion would fall under a user's hand when the handle is gripped by a user. The Appellants have not limited the size of the palm pad portion in claim 1 to any specific dimensions, nor have they described or limited the size of the user's hand or the specific orientation of the user's hand on the handle. We can envision at least some users whose heel portion of the palm of their hands would engage a portion of the handle shown in Bean.

In particular, Bean's handle includes what appears to be a trigger mechanism and an opening such that the user's fingers would wrap around the handle and pass through the opening to actuate the trigger (Fact 5). Bean's handle also includes a portion that extends rearwardly of the trigger mechanism a certain distance (Fact 6). When gripping the handle, the user's palm would rest against the portion of the handle rearward of the trigger mechanism (i.e., the portion shown with a separate grip material in Figure 6 and marked by the Examiner in the Figure on page 10 of the Answer as the palm pad portion) (Fact 7). Depending on the size of the user's hand, at least some users would have hands small enough so that the palm pad portion of the handle would underlie the heel portion of the palm of the user's hand (Fact 8). Further, if the user grips the handle at a slight angle in order to better reach the trigger with the fingers, then the palm pad portion of the handle would underlie at least a portion of the heel portion of the palm of the user's hand (Fact 9). The Appellants have not presented sufficient

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evidence or arguments to persuade us that users, using the miter saw of Bean, would not have at least a portion of the heel of the palm of the users' hands overlies the palm pad portion of the handle of Bean's saw. As such, we sustain the rejection of claim 1 and its dependent claim 4 as being anticipated by Bean.

Rejections of claims 2 and 3 under 35 U.S.C. § 103(a) as unpatentable over Bean in view of Svetlik and in view of Bidanset, respectively

The Appellants argue that neither Bean, Svetlik, nor Bidanset disclose or suggest the claimed palm pad portion extending outwardly from the grip portion a distance sufficient to underlie the heel portion of the palm of the user's hand, as recited in claim 1 (App. Br. 8-9). We disagree and find that Bean does disclose the claimed palm pad portion for the reasons set forth *supra* in our analysis of claim 1. As such, we are not persuaded of any error in the Examiner's rejection of claims 2 and 3.

Rejection of claims 1 and 4-9 under 35 U.S.C. § 103(a) as unpatentable over Brunson, Bean, and Pause

The Appellants argue the Examiner erred in rejecting claims 1 and 4-9 because: (1) the Examiner's reason for incorporating Pause's rotatable joint in Brunson's saw is not a legitimate reason to combine these references (App. Br. 9), (2) the Examiner did not provide any additional objective evidence that the state of the art was such that the proposed combination of Pause and Brunson was possible or that one of ordinary skill would have

contemplated such a combination based on their general level of knowledge (App. Br. 10), and (3) even if combined, the combination of Brunson, Bean, and Pause does not disclose the claimed palm pad portion (App. Br. 10).

In the rejection of claims 1 and 4-9, the Examiner acknowledged that Brunson fails to teach the handle being connected to a central region of the arm assembly via a rotatable joint (Ans. 8). The Examiner relied on Pause's teaching of connecting a handle to a central region via a rotatable joint and found "it would have been obvious to one skilled in the art to incorporate the rotatable joint as taught by Pause to the miter saw of Brunson to increase the adjustability of the handle in the Brunson's saw" (*id.*).

We find the reasoning provided by the Examiner to be a legitimate and rational basis for incorporating the teaching of Pause to the miter saw of Brunson. In particular, Pause teaches an improvement in a handle for a handsaw which allows the handle to be adjustably secured to the blade in such manner that it may be turned to lie in a plane that is disposed at any desired angle to the plane of the saw blade (Fact 10). Pause describes that when an angular cut is to be made in a position that is not easily accessible, then the handle can be turned with respect to the saw blade to any directed angular position (Fact 11).

Brunson discloses a miter saw 10 having a handle 24 that is fixedly connected in angular position relative to the saw blade 18 (Fact 12). Brunson further discloses that the miter saw 10 can be used to make bevel cuts in a work piece by pivoting the housing assembly 16 to change the angle of the saw blade 18 relative to a table assembly 14 (Fact 13). Both the

saw blade 18 and the handle 24 are part of the housing assembly 16 (Fact 14). As such, when the saw blade 18 is pivoted, the handle 24 also pivots because the two are connected in a non-rotatable fashion (Fact 15). In such instances, the handle is presented to the user in an angled orientation, which may be awkward for operation of the handle by the user (Fact 16). It would have been obvious to one having ordinary skill in the art that Pause's teaching of attaching a handle to a saw blade, albeit a hand-saw blade, in a rotatable manner so that the handle can remain in a user-friendly position even when making angular cuts with the saw blade, could also be used to improve the handle of a compound miter saw, as in Brunson, in which the blade is capable of cutting a work piece at an angle. *See KSR*, 127 S. Ct. at 1740 ("if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill). In this case, there existed a design need in the conventional miter saw art, in which the handle and saw blade are fixed relative to each other, to be able to angle the handle relative to the saw blade to allow the user an easier opportunity to grip the handle to operate the saw even when the blade is angled.

The Appellants argue that Brunson does not provide any motivation to modify its handle (App. Br. 9). The conclusion of obviousness does not, however, have to be based on precise teachings in the references themselves. *See KSR*, 127 S. Ct. at 1740 ("the analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim, for

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a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.”) The Appellants also argue that the Examiner’s rejection did not provide any additional objective evidence (App. Br. 10). We do not see that any additional objective evidence is necessary in this case in order to arrive at a conclusion of obviousness. To the extent the Examiner’s rather terse explanation of the rejection failed to sufficiently set forth an adequate explanation of obviousness, we have added to the reasoning herein.

With respect to the teachings of Bean, the Appellants have not presented any persuasive evidence or arguments against the Examiner’s proposed rationale for modifying Brunson’s miter saw with Bean’s handle. Further, as we found *supra*, Bean discloses the claimed palm pad portion on its handle. As such, we sustain the rejection of claims 1 and 4-9 as unpatentable over Brunson, Bean, and Pause. Because our rationale for combination of Brunson and Pause adds to the Examiner’s reasoning, we designate the affirmance of the obviousness rejection as a new ground of rejection, pursuant to 37 C.F.R. § 41.50(b).

CONCLUSIONS

We conclude the Appellants have failed to show that the Examiner erred in rejecting claims 1 and 4 under 35 U.S.C. § 102(e) as anticipated by Bean, claim 2 under 35 U.S.C. § 103(a) as unpatentable over Bean and Svetlik, claim 3 under 35 U.S.C. § 103(a) as unpatentable over Bean and

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Bidanset, and claims 1 and 4-9 under 35 U.S.C. § 103(a) as unpatentable over Brunson, Bean, and Pause.

DECISION

The decision of the Examiner to reject claims 1-9 is affirmed. We enter a new ground of rejection of claims 1-9 under 35 U.S.C. § 112, second paragraph, as indefinite. We also designate our affirmance of the rejection of claims 1 and 4-9 under 35 U.S.C. § 103(a) as unpatentable over Brunson, Bean, and Bidanset as a new ground of rejection.

Regarding the affirmed rejection(s), 37 C.F.R. § 41.52(a)(1) provides "Appellant may file a single request for rehearing within two months from the date of the original decision of the Board."

In addition to affirming the Examiner's rejection(s) of one or more claims, this decision contains new grounds of rejection pursuant to 37 C.F.R. § 41.50(b) (2007). 37 C.F.R. § 41.50(b) provides "[a] new ground of rejection pursuant to this paragraph shall not be considered final for judicial review."

37 C.F.R. § 41.50(b) also provides that Appellant, WITHIN TWO MONTHS FROM THE DATE OF THE DECISION, must exercise one of the following two options with respect to the new grounds of rejection to avoid termination of the appeal as to the rejected claims:

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(1) *Reopen prosecution.* Submit an appropriate amendment of the claims so rejected or new evidence relating to the claims so rejected, or both, and have the matter reconsidered by the Examiner, in which event the proceeding will be remanded to the Examiner. . . .

(2) *Request rehearing.* Request that the proceeding be reheard under § 41.52 by the Board upon the same record. . . .

Should Appellant elect to prosecute further before the Examiner pursuant to 37 C.F.R. § 41.50(b)(1), in order to preserve the right to seek review under 35 U.S.C. §§ 141 or 145 with respect to the affirmed rejection, the effective date of the affirmance is deferred until conclusion of the prosecution before the Examiner unless, as a mere incident to the limited prosecution, the affirmed rejection is overcome.

If Appellant elects prosecution before the Examiner and this does not result in allowance of the application, abandonment or a second appeal, this case should be returned to the Board of Patent Appeals and Interferences for final action on the affirmed rejection, including any timely request for rehearing thereof.

AFFIRMED; 37 C.F.R. § 41.50(b)

vsh

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